

# MATERIAL SAFETY DATA SHEET

Product Name/Number..... BG-5  
 Company Name..... R.M. BOGGS CO.  
 Address..... 2804 INDUSTRIAL PARK ROAD  
 IOWA CITY, IOWA 52244  
 Emergency Response Number..... (800)535-5053 (INFOTRAC)  
 Effective Date..... DECEMBER 1995

DOT Ship Class..... CORROSIVE LIQUID, N.O.S. - CONTAINS  
 MORPHOLINE/CYCLOHEXYLAMINE

P.G. III

Emergency Response Guide Number.... 60

## HMIS RATING

HEALTH-3      FLAMMABILITY-0      REACTIVITY-1      PERSONAL/PROTECTION-J

## I - COMPOSITIONAL INFORMATION

Ingredients.....	Cas Number.....	Percent.....	OSHA PEL.....	ACGIH TLV.....	Other Limits
MORPHOLINE	110918	5-10	20 ppm		
CYCLOHEXYLAMINE	108918	5-10	10 ppm		

Non-Hazardous Ingredients..... 80-90  
 Total..... 100

## II - PHYSICAL PROPERTY INFORMATION

Appearance-Odor..... CLEAR LIQUID AMINE ODOR  
 pH..... 12+/-  
 Melting Point..... N.A.  
 Boiling Point..... 212°F  
 Vapor Pressure (mm HG)..... SAME AS WATER  
 Vapor Density (air = 1)..... SAME AS WATER  
 Solubility In Water..... COMPLETE  
 Percent Volatile (BY WEIGHT)..... 100  
 Specific Gravity (WATER = 1)..... 0.98  
 Evaporation Rate (WATER = 1)..... 1  
 Water Reactive..... NO

## III - FIRE AND EXPLOSION HAZARD INFORMATION

Flash Point..... NON-FLAMMABLE  
 Auto Ignition Temperature.....  
 Lower Explosion Limit (%).....  
 Upper Explosion Limit (%).....  
 Extinguishing Media..... FOAM, DRY CHEMICAL, ALCOHOL FOAM  
 CO2, WATER SPRAY

### Special Fire Fighting Procedures:

IF POTENTIAL FOR EXPOSURE TO VAPORS OR PRODUCTS OF COMBUSTION EXISTS, WEAR COMPLETE PERSONAL PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE. WATER SPRAY CAN BE USED TO REDUCE INTENSITY OF FLAMES AND TO LUTE SPILLS TO NON-FLAMMABLE MIXTURE.

Unusual Fire And Explosion Hazards . . . VAPOR IS HEAVIER THAN AIR AND CAN TRAVEL CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASHBACK. IN A CONFINED SPACE, OVER PRESSURIZATION AND CONTAINER FAILURE COULD RESULT.

---

#### IV - HEALTH HAZARD INFORMATION

---

Primary Routes of Entry.. INHALATION, INGESTION, SKIN ABSORPTION

Carcinogen Listed In . NOT LISTED

Health Hazards: Acute . INGESTION: MODERATELY TOXIC. MAY CAUSE IRRITATION OF BURNS OF THE MOUTH, THROAT, ESOPHAGUS, AND STOMACH. MAY CAUSE NAUSEA, VOMITING, DIARRHEA, AND CARDIOVASCULAR EFFECTS.

INHALATION: MODERATELY TOXIC. CAN CAUSE IRRITATION OF THE RESPIRATORY SYSTEM. EXPOSURE SYMPTOMS MAY INCLUDE COUGHING, CHEST PAIN, BREATHING DIFFICULTY, LOSS OF MUSCLE COORDINATION, HEADACHE, VOMITING, DIZZINESS, AND NAUSEA. CAN CAUSE PULMONARY EDEMA (ACCUMULATION OF FLUID IN THE LUNGS); SIGNS AND SYMPTOMS CAN BE DELAYED FOR SEVERAL HOURS..

SKIN CONTACT: LIQUID CAN CAUSE SEVERE SKIN EFFECTS, INCLUDING BURNS AND SKIN CORROSION.

EYE CONTACT: CONTACT WITH LIQUID CAN BE CORROSIVE TO THE EYES, RESULTING IN IRREVERSIBLE DAMAGE. CONTACT WITH VAPOR CAN CAUSE EYE IRRITATION. CONTACT WITH EXCESSIVE VAPORS MAY CAUSE TRANSIENT VISUAL DISTURBANCES CHARACTERIZED BY MILDLY BLURRED VISION AND A BLUE-GRAY DISCOLORIZATION OF SIGHT. THIS EFFECT IS COMMONLY REFERRED TO AS BLUE HAZE OR HALO VISION, WITH HALO VISION GETTING ITS NAME FROM THE APPEARANCE OF A HALO WHEN LOOKING AT LIGHT SOURCES. THESE EFFECTS ARE DUE TO MILD CORNEAL IRRITATION AND EDEMA AND NORMALLY DISAPPEAR SEVERAL HOURS AFTER EXPOSURE CEASES.

Signs And Symptoms of Exposure . . . IRRITATION TO EYES

Effects of Overexposure . . . . . TRANSIENT VISUAL DISTURBANCES CHARACTERIZED BY MILDLY BLURRED VISION AND A BLUE-GARY DISCOLORIZATION OF SIGHT.

---

#### V - Emergency And First Aid Procedures:

---

Inhalation . . . . . REMOVE TO FRESH AIR. BEGIN ARTIFICIAL RESPIRATION IF NOT BREATHING ADEQUATELY. OBTAIN MEDICAL ASSISTANCE IMMEDIATELY.

Ingestion . . . . . PATIENT SHOULD BE MADE TO DRINK LARGE QUANTITIES OF WATER. DO NOT INDUCE VOMITING. CONTACT A PHYSICIAN IMMEDIATELY.

Eye And Skin Contact . . . FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES. CONTACT A PHYSICIAN IMMEDIATELY.

REMOVE CONTAMINATED CLOTHING AND WASH SKIN IMMEDIATELY WITH LARGE AMOUNTS OF WATER; AS SOON AS POSSIBLE, WASH WITH VINEGAR FOR A MINIMUM OF ONE MINUTE TO NEUTRALIZE/SOLUBILIZE RESIDUAL AMINE, FOLLOWED BY A WATER RINSE. REPEAT VINEGAR/WATER PROCESS IF STICKINESS FROM RESIDUAL AMINE PERSISTS. SIGNIFICANT SIGNS OF IRRITATION SHOULD BE SEEN BY A PHYSICIAN. SEEK MEDICAL ATTENTION IMMEDIATELY.

---

#### VI - REACTIVITY INFORMATION

---

Stability . . . . . STABLE  
Hazardous Polymerization . . . WILL NOT OCCUR

Hazardous Combustion or Decomposition Products: IN THE PRESENCE OF SUFFICIENT OXYGEN, COMBUSTION MAY PRODUCE OXIDES OF NITROGEN AND CARBON DIOXIDE. NITROGEN OXIDES CAN REACT WITH WATER TO PRODUCE NITRIC ACID. COMBUSTION UNDER OXYGEN STARVED CONDITIONS MAY PRODUCE NUMEROUS TOXIC PRODUCTS INCLUDING CARBON MONOXIDE, CYANIDES, AND NITRILES.

Incompatibility (Materials To Avoid) . . . MAY REACT VIGOROUSLY WITH OXIDIZING AGENTS. A REACTION ACCOMPANIED BY A LARGE HEAT RELEASE OCCURS WHEN MIXED WITH ACIDS; HEAT GENERATED MAY CAUSE BOILING, SPLASHING OR SPLATTERING. DO NOT MIX WITH ISOCYANATES. MORPHOLINE SHOULD NOT BE MIXED WITH SODIUM NITRITE OR NITROSATING AGENTS.

---

#### VII - SPILL OR LEAK PROCEDURE INFORMATION

---

For Spills . . . . . PLACE LEAKING CONTAINERS IN WELL-VENTILATED AREA WITH SPILL CONTAINMENT. IF FIRE POTENTIAL EXISTS, BLANKET SPILL WITH ALCOHOL-TYPE AQUEOUS FILM-FORMING FOAM OR USE WATER SPRAY TO DISPERSE VAPORS. AVOID RUN-OFF INTO STORM SEWERS AND DITCHES WHICH LEAD TO NATURAL WATERWAYS. CONTAIN SPILL TO FACILITATE CLEAN-UP CLEAN-UP METHODS MAY INCLUDE ABSORBENT MATERIALS, VACUUM TRUCK, ETC.

Waste Disposal Methods . . . ALL NOTIFICATION, CLEAN-UP AND DISPOSAL SHOULD BE CARRIED OUT IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.

---

#### VIII - SPECIAL PROTECTION INFORMATION

---

Respiratory Protection . . . BASED ON CONTAMINATION LEVEL AND WORKING LIMITS OF THE RESPIRATOR, USE A RESPIRATOR APPROVED BY NIOSH/MSHA.

Protective Gloves . . . . . BUTYL RUBBER OR NEOPRENE.

Eye Protection . . . . . CHEMICAL SAFETY GOGGLES. DO NOT WEAR CONTACT LENSES.

Ventilation To Be Used . . . LOCAL EXHAUST: RECOMMENDED WHEN APPROPRIATE TO CONTROL EMPLOYEE EXPOSURE.

Other Protective Equipment FOR OPERATIONS WHERE SPILLS OR SPLASHING CAN OCCUR, USE CHEMICAL PROTECTIVE CLOTHING, INCLUDING GLOVES AND BOOTS. SAFETY SHOWER AND EYE BATH SHOULD BE READILY AVAILABLE.

---

#### IX - SARA TITLE III REGULATORY INGREDIENT INFORMATION

---

1. Title III Section 302/304 Extremely Hazardous Substance List and/or CERCLA Hazardous Substance List.

Component..... CYCLOHEXYLAMINE

Cas Number..... 108918

Percent..... 5-10

T.P.Q.(LBS)..... 10,000

R.Q.(LBS)..... 1

2. Title III Section 313 Toxic Chemicals Annual Release Reporting Requirements (SARA Section 313 Toxic Chemicals List).

Component..... CYCLOHEXYLAMINE

Cas Number..... 108918

Percent..... 5-10

---

#### User's Responsibility

---

The information and recommendations contained herein cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. It is your responsibility to use this information to develop appropriate work practice guidelines and employee instructional programs for your operations.

---

#### Disclaimer Of Liability

---

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state and local laws and regulations remains the responsibility of the user.

---